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ABSTRACT

A study represented an initial attempt to assess the functional equivalence of two techniques for compliance-gaining research in the classroom, the constructionist approach and the strategy checklist approach. First, a system for coding teachers' message constructions was developed. Then those messages were analyzed to assess the relative sensitivity of this approach to those results previously obtained with the Behavior Alteration Technique (BAT) checklist. Subjects, 43 female and 25 male experienced elementary and secondary teachers enrolled in communication classes at a large Eastern university, were asked to read descriptions of four hypothetical student misbehavior scenarios and to write what they thought they would say to get the particular student to do what they wanted him/her to do. Five hundred sixty-seven teacher-generated messages were received. Results contradicted B. R. Burleson's claim that message constructions provide "better" data which are more sensitive to the influence of particular variables and more representative of "real world" effects. Findings support "functional equivalence", with specific differences obtained which give a stronger basis for questioning the constructionist approach coding methods and results. (Three figures, one table of data and seven footnotes are included; 57 references are attached.) (RAE)

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# THE STRATEGY SELECTION-CONSTRUCTION CONTROVERSY: A CODING SCHEME FOR ANALYZING TEACHER COMPLIANCE-GAINING MESSAGE CONSTRUCTIONS

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Running Head: CODING SCHEME

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# THE STRATEGY SELECTION-CONSTRUCTION CONTROVERSY: A CODING SCHEME FOR ANALYZING TEACHER COMPLIANCE-GAINING MESSAGE CONSTRUCTIONS

## Abstract

Tired of Burleson, Wilson, Waltman, Goering, Ely and Whaley (1988) repeated contentions that the constructionist approach is superior to and more valid than the strategy checklist (and every other approach, see Beatty, 1987), this study represents an initial attempt to assess the functional equivalence of the two techniques for compliance-gaining research in the classroom. Specifically, we begin our task by developing a system for coding teachers' message constructions. Next, we analyze those messages to assess the relative sensitivity of this approach to those results previously obtained with the Behavior Alteration Technique (BAT) checklist. Burleson et al. claim that message constructions provide "better" data which are more sensitive to the influence of particular variables and more representative of "real world" effects. Our data do not support such allegations. In fact, results indicate findings comparable to those obtained using the BAT checklist. While we argue for "functional equivalence" overall, specific differences obtained give us a stronger basis for questioning <u>their</u> coding methods and results. A more direct test of the two methods is warranted.

# THE STRATEGY SELECTION-CONSTRUCTION CONTROVERSY: A CODING SCHEME FOR ANALYZING TEACHER COMPLIANCE-GAINING MESSAGE CONSTRUCTIONS

In spite of the widespread popularity of the selectionist approach to compliance-gaining research, Burleson, Wilson, Waltman, Goering, Ely and Whaley (1988; 1986) recently present data attempting to negate the validity of "check list" type assessments. According to their social construction of reality, checklists are insensitive to situational and individual differences and are confounded by social desirability effects. Alternatively, they claim, message "constructions" are the panacea for overcoming these and other yet-to-be-named problems associated with the selectionist approach. "Only in this manner," they say, "will researchers avoid what may be the 10 years of wasted effort in the compliance-gaining area" (Burleson et al., 1986, p. 61).

While these authors limit their validational studies to the Marwell and Schmitt (1967) and Wiseman and Schenk-Hamlin (1981) checklists commonly employed in interpersonal research, they generalize their accusations to include instructional studies which employ the Behavior Alteration Technique (BAT) typology. They state that studies using the selectionist procedure "warrant suspicion." We disagree. This study represents an initial attempt to determine the functional equivalence of their instrument of choice (message constructions) versus ours (message selections) in the instructional environment. Specifically, we begin our task by

developing a system for coding teachers' message constructions. Next, we analyze those messages to assess the relative sensitivity of this approach to those results previously obtained with the BAT checklist.

## The Research Problem

Probing what strategies teachers use to influence student behaviors in the classroom, Kearney, Plax, Richmond and McCroskey (1984; 1985) identified 22 message-based Behavior Alteration Techniques (BATs). Employing the resulting BAT typology, a series of programmatic instructional communication studies have been completed (Kearney et al., 1984; 1985; Kearney & Plax, 1987; McCroskey, Richmond, Plax, & Kearney, 1985; Plax, Kearney, & Downs, 1986; Plax, Kearney, Downs & Stewart, 1986; Plax, Kearney, McCroskey, & Richmond, 1986; Plax, Kearney, & Tucker, 1986; Richmond, McCroskey, Kearney, & Plax, 1987). The typical research design employed across all these studies requires that teachers (or students or preteachers) respond to a given list of strategies by checking the relative degree of use or nonuse of each technique in their classroom. This "selectionist" methodology has been used widely in compliance-gaining research in interpersonal and organizational contexts as well (see for instance, Baglan, Lalumia, & Bayless, 1986; Burgoon, Pfau, Parrott, Birk, Coker, & Burgoon, 1987; deTurck, 1985; Miller, Boster, Roloff, & Seibold, 1977).

In this study, rather than asking teachers to select from a

preformulated checklist, we asked that teachers themselves freely "construct" those messages they would use. Critical to this methodological shift, we develop a coding scheme for content analyzing teacher compliance-gaining messages. To offer initial validational evidence for this coding scheme, we "retest" the arguments of an earlier study employing the selectionist, BAT type methodology to determine the potential "functional equivalence" of both techniques. Pertinent to this study is an overview of Burleson et al.'s criticisms of the selectionist approach and their arguments supporting the constructionist alternative. What follows is a rationale for devising a coding scheme to content analyze teacher compliance-gaining messages.

**The Selectionist Approach**

The major thrust of criticisms directed at the strategy selection procedure was initiated by a small group of constructionists who question the validity of those compliance-gaining studies in the interpersonal area which rely extensively on the Marwell and Schmitt (1967) strategy checklist (c.f., Jackson & Jacobs, 1983). Basically, the compliance-gaining design employed in interpersonal contexts presents subjects with a scenario in which an agent attempts to gain compliance from a target. Relying primarily on Marwell and Schmitt's (1967) taxonomy, researchers derive a single message representing a specific strategy for each treatment scenario. Respondents are then asked to indicate their likelihood of using the embedded tactic employed in each condition.

Arguing that the Marwell and Schmitt (1967) taxonomic classification is not grounded in interpersonal influence, critics warn that the strategies may be neither representative nor exhaustive of those techniques people normally use in friendships, marriages, neighbors and other interpersonal contexts (Clark, 1979; Wiseman & Schenck-Hamlin, 1981). Moreover, constructionists contend that the use of single, rather than multiple, messages to operationalize an entire compliance-gaining technique may fail to adequately represent that technique. Finally, the use of researcher-generated messages may not be similarly constructed by respondents themselves (Jackson & Jacobs, 1983; Seibold, Cantrill, & Meyers, 1985).

More recently, Burleson and his colleagues (1986; 1988) "trash" the selection procedure by claiming that checklists "produce garbage." Specifically, they argue that checklists are relatively insensitive to situational and individual differences variables on compliance-gaining behavior. Reviewing the interpersonal literature which employs the selection procedure, Burleson et al. conclude that only weak and inconsistent effects are obtained. Secondly, they assert that subjects tend to underreport the use of negative, antisocial strategies to gain compliance, while overreporting the use of positive, prosocial techniques. This systematic distortion, they argue, is explained by a type of social desirability effect known as "item desirability bias." Rather than responding to the actual content of a single message or strategy, subjects' responses are

influenced by the perceived social "appropriateness" or desirability of the item itself.

Testing the "item desirability bias" of the strategy checklist, Burleson et al. (1988) found that for both the Marwell and Schmitt (1967) and Wiseman and Schenk-Hamlin (1981) typologies, likelihood of use ratings are contaminated by the social appropriateness of the strategies. That is, subjects are more likely to indicate a greater reliance on those strategies perceived as "nice" or "polite" and less usage of those which are "mean" or "impolite" (p. 478). In the original conference paper, Burleson et al. (1986) conclude that "the 10 years of studies using the strategy selection procedure can only tell us which strategies are perceived as more and less socially appropriate. In other words, it is probably safest to conclude that the dozens of published and unpublished studies using the strategy selection procedure tell us nothing about compliance-gaining behavior in the real world" (p. 60).

**The Constructionist Approach**

Certain "loquacious" writers suggest that this alternative message construction procedure avoids the validity problems inherent in checklist methodologies (Burleson et al., 1988). The typical research design employing this data-gathering technique presents subjects with a hypothetical scenario of an agent attempting to influence a particular target in an interpersonal situation. Rather than present subjects with a preformulated list of strategies to choose from, however, participants are instructed

to write what they think they would say to secure the compliance of the target in each situation. The advantage of this procedure, according to this group, is that respondent-generated messages are not limited to (or extended by) those choices researchers have identified. Moreover, constructed messages are more likely to represent what respondents themselves would actually say or do (see also Clark, 1979; Tracy, Craig, Smith, & Spisak, 1984).

Burleson et al. (1988) further challenge that the construction procedure is significantly more sensitive to the influence of particular situational and individual difference variables on compliance-gaining message productions (p. 431). Reviewing those studies which compare the use of selection and construction procedures in interpersonal contexts, the authors conclude that the construction procedure yields results more consistent with real world, expected effects. Finally, Burleson et al. report that, unlike the selection procedure, subject-generated messages are less likely to be affected by social desirability biases. Employing both between- and within-groups designs, these researchers conclude that the two procedures (selection and construction) fail to yield comparable results. Whereas the selection procedure produces results consistent with social desirability, "people were no more likely to construct socially appropriate compliance-gaining strategies than socially inappropriate strategies" (p. 475) when the construction procedure was used.

**Rationale**

Despite both a long term and wide spread acceptance of the selectionist approach in compliance-gaining research, Burleson and his colleagues (1988) argue that their method of accessing data is the ultimate solution to many of the age old psychometric problems associated with all approaches to data collection. They further protest that there are numerous reasons for questioning the validity of strategy checklists used in past, present and future research. Moreover, they offer their assessment alternative as the "correct" way of tapping ecologically-valid compliance-gaining strategies people typically use.

Before anyone takes either their indictment or solution too seriously, two concerns lead us to take issue with their immutable and protracted contentions. First, those arguments indicting the Marwell and Schmitt (1967) strategy checklist may not be similarly applicable to the Behavior Alteration Technique (BAT) typology used in instructional research. Second, we suspect that their failure to obtain comparable results from data obtained through the selection vs. the construction procedure is influenced more by the content analytic procedures employed by the investigators themselves than by the techniques <u>per se</u>.

In explanation, our first uneasiness centers on their criticism of the BAT typology specifically. Unlike the Marwell and Schmitt taxonomy, the BATs comprise an inductively derived compliance-gaining typology specific to classroom influence. Further, even though instructional research has relied on the selectionist method of eliciting teachers' retrospective or

projective technique use, the strategies are operationalized with multiple, rather than single, messages. And, those representative messages are derived, not from the researchers, but from teachers themselves. With regard to the data which suggests that strategy checklists are insensitive to the effects of situational and individual difference variables on interpersonal compliance-gaining selections and that all checklists suffer from an item desirability bias (Burleson et al., 1988), the BAT typology may or may not be indictable. This issue requires empirical investigation.

Second and more importantly, is their apparent lack of specificity in reporting the content analytic procedures they use to convert the qualitative, constructed messages into preformulated typologies. Without adequate explanation of the procedures they employ (e.g., the rule book for unitizing and coding sample messages), replication is impossible and public censure is avoided. However, substantial reason exists for questioning their content analytic procedures. For example, Burleson et al. (1988) report that 27.12% and then again, 47.44% of the strategies constructed by two different samples could not be coded into the Marwell and Schmitt categories. Analysis of the remaining messages revealed that subjects were no more or less likely to construct prosocial or antisocial messages (and, consequently, a social desirability bias was avoided). What appears at first glance, as support for the constructionists' position, may be restricted, in fact, to only those messages which

they were able to selectively "fit" into the Marwell and Schmitt taxonomy. Not knowing the coding criteria they employ, we have no way of assessing whether the "other" category of data represents a systematic bias toward either pro or antisocial techniques. Before "eschewing" the selection procedure in favor of a more "nonbiased" alternative, then, considerable research is needed.

The purpose of this study is to develop and test a coding scheme for content analyzing teacher compliance-gaining message constructions. While the BAT typology can be adapted conceptually to a coding system, it is important to note that the typology was not designed operationally for coding qualitative data. The inductively derived 22 category system is lengthy and thus, probably too cumbersome for accurate coding. Factor analyses of teacher responses to the BAT typology across 4 conditions and 2 separate samples suggest that the system is most accurately represented by prosocial and antisocial categories (Kearney, Plax, Sorensen, & Smith, 1988). Other studies also report a similar positive/negative solution when employing alternative compliance-gaining typologies in other contexts (Boster, Stiff, & Reynolds, 1985; Hunter & Boster, 1978). Consistent with prior research, then, the coding system generated in this study should capture, at minimum, both pro and antisocial response options. Moreover, an effective coding system should be one that validly represents the data (goodness of fit) and can be applied with high reliability among coders. Specifically, our primary objective is to develop a content coding scheme that is appropriate for analyzing teacher compliance-gaining message constructions.

Moreover, this study is designed to allow for an initial empirical test of the predictive utility of the resulting coding system. Prior research using the selectionist procedure identifies both situational and individual difference variables as predictors of teachers' BAT selections. Specifically, Kearney and Plax (1987) and Kearney et al. (1988) found that experienced teachers' message "selections" are dependent, in part, on students' misbehavior type (active/passive) and, to a lesser extent, on misbehavior intensity (frequent/occasional disruptions) and teacher gender. Acknowledging Burleson et al.'s (1988) reasoning that the selectionist procedure is less sensitive than the constructionist approach to the effects of situational and individual difference variables, we should expect the data obtained in this study to yield similar, if not more substantial effects on teachers' compliance-gaining message constructions. Consequently, a secondary objective is to test the relative and absolute impact of each of the previously identified situational and individual difference variables on teachers' message constructions.

## METHOD

Participants were 68 (43 female, 25 male) experienced elementary and secondary teachers enrolled in communication classes from a large Eastern university.[1] In order to ensure that the teachers who participated had representative in-class experience, only Ss with two or more years of teaching were

included in this study. Fifteen Ss taught grades K-3; 18 in grades 4-6; 21 in 7-9; 4 in 10-12; and 5 taught special subjects across grade levels.

The procedures employed in this study were similar to those used in previous BAT studies that anchored teachers' perceptions of BAT use to specific classroom misbehaviors (Plax, Kearney & Tucker, 1986; Kearney & Plax, 1987; Kearney, Plax, Sorensen & Smith, 1988). After S's indicated their sex and grade level normally taught, they were presented with a test booklet containing descriptions of four hypothetical student misbehavior scenarios. Following each stimulus misbehavior scenario, participants were asked "to please write what you think you would say to get the particular student to do what you want him/her to do." Directions also indicated to "feel free to write as many different things you think you would say." This procedure yielded 567 teacher-generated messages. The inclusion of the strategy construction, rather than a strategy selection, instrument marks a shift within the paradigm normally employed within this line of research. Subjects were told that the purpose of the study was to examine teachers' classroom management practices.

Stimulus Materials

Besides eliciting teacher messages for developing the coding system, this design required an inclusion of the variables pertinent to previous selection studies in instructional research. Consequently, subjects were provided the same four students misbehavior scenarios employed in Kearney et al. (1988).

Consistent with that research, each misbehavior illustrated student misbehaviors common across all grade levels with two identified as active (talking out-of-turn and overactivity) and two as passive (inattention and apathy) misbehavior types. These same 4 misbehaviors also varied in intensity with two written to indicate "frequently occurring" (apathy and overactivity) and the other two considered "infrequent" or "occasional." Debriefing interviews substantiated that all of the teachers sampled perceived the distinctions created by the manipulations. Participants were instructed to "imagine that the student in each situation is in the grade level you normally teach." (See Figure 1 for the actual scenarios employed). All teachers indicated they were able to imagine themselves easily in each of the four conditions.

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Insert Figure 1 about here

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As in prior studies (Kearney & Plax, 1987; Kearney et al., 1988; Plax et al., 1986), each scenario also reflected mixed-gender roles. As a result, participants responded to two male and two female students engaging in one of four scenarios. Gender roles were rotated for each of the four scenarios so that half of the teachers ($N$ = 34) received male passive-frequent, female active-occasional, male active-frequent and female passive-occasional. Gender and the misbehavior scenarios were reversed for the other half of the teachers ($N$ = 34).

Developing the Message Coding System

Unitizing the Messages. Unitizing the raw teacher data required the imposition of a uniform structure onto the verbal passages (Fox, 1969; Guetzkow, 1950; Holsti, 1968; Krippendorff, 1980; Weber, 1985). Each teacher-constructed message was examined to determine when a particular compliance-gaining strategy began and when that same strategy ended. Initially, an attempt was made to unitize a given subject's message set according to complete sentences. However, more often than not, the teachers imposed more than one distinct strategy within a given sentence. Also, there were instances where sentences did not include any strategy. Instead, many teachers wrote statements across several sentences justifying the strategy they did select ("I don't normally respond this way, but it seems Johnny's got it coming to him in this case"). Moreover, given messages/strategies could have been subject to "multiple coding" (Fox, 1969, p. 655) in those instances where teachers restated the same message across a number of different sentences. Finally, after examining all of the raw data, it was determined that the unit for analysis would consist most appropriately, of those phrases, sentences or entire paragraphs that represented separate, discrete attempts to change the student's behavior.

Because a number of messages included nonverbal approaches to compliance-gaining (e.g., "I would stare at her until she answered me"), these strategies were unitized as well. In those events

where the nonverbal message was designed to add emphasis to the verbal (e.g., "I would give her my 'evil eye' as I called on her"), the nonverbal message was not unitized separately from the verbal. Instead, the nonverbal served to assist subsequent coders in their determination of the BAT type reportedly used.

After deciding on the appropriate unit of analysis, the next task was to take the written messages across the four different misbehavior scenarios from the 68 teachers and mark each separate unit. This step assured that in subsequent coding, coders would categorize a uniform number and kind of messages (Cartwright, 1966; Guetzkow, 1950; Holsti, 1968; Krippendorff, 1980; Weber, 1985). Independent from the actual coders of this study, a message "unitizer" marked the separate messages across all of the raw data for later categorization.

Unitizing reliability was assessed by having a second individual, familiar with the study, unitize a subset of 100 protocols. Percentage of agreement between the two coders was 98% for the exact number of actual units. However, the degree of agreement on the number of message units does not speak to the estimate of unit-by-unit agreement. Consequently, when actual data coders questioned a given unit defined by the "unitizer," they met to reach agreement on the message segment.

Establishing the Categories. The second operation involved the development of a valid coding scheme. The BAT typology developed by Kearney et al. (1984) was designed originally as an instrument suitable for the selection procedure. As anticipated,

our initial efforts to convert the 22-category instrument to a constructionist-type coding scheme were frustrated by the number of distinctions created by the typology. Even assuming the appropriateness of a employing a selectionist typology for coding qualitative data, imposing 22 separate categories (of BATs) onto single message units required a sophistication and a capacity to differentiate that was beyond the information processing abilities of our coders.

Keeping in mind that a coding system should rely on the current literature, but at the same time be representative of the data, we modified the scheme to meet both criteria. We recognize that a number of category systems exist which could be used to content analyze teacher messages (e.g., French & Raven, 1959; Wheeless, Barraclough, & Stewart, 1984). However, these systems were not derived inductively from teachers' themselves. Consequently, we run the risk of excluding "real world" data by imposing inappropriate categories and thus, omitting relevant information. Because the BAT typology more directly represents teacher messages of compliance-gaining, we chose to revise the BAT scheme to include at minimum those underlying dimensions that were recently empirically defined across the entire typology (Kearney et al., 1988; Plax, Kearney, & Downs, 1986). Similar to those dimensions comprising most of the compliance-gaining typologies in the interpersonal literature (Hunter & Boster, 1978, 1979; Roloff & Barnicott, 1978; 1979), the majority of the original 22 BAT categories could be conceptualized as either prosocial or

antisocial techniques. (For a more complete delineation of pro and antisocial category descriptions, see Figure 2).

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Insert Figure 2 about here

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An examination of the BAT categories that were empirically defined as either pro or antisocial (c.f., Kearney et al., 1988) revealed that all those BATs that were "reward-oriented" comprised the first factor of prosocial techniques and all those that were "punishment-oriented" loaded on the second, antisocial factor. However, a number of other BATs, not explicitly defined as either reward or punishment based, were also perceived as "prosocial" or "antisocial." That is, our definitions of prosocial and antisocial were expanded to conform more closely to the data as well as previous definitions of these constructs.

For instance, Mead (1934) and others (Comstock & Lindsey, 1975; Liebert, Sprafkin, & Davidson, 1982; Wispe, 1972) define prosocial as any social behavior that is helpful or beneficial to others. Instances of prosocial behavior operationalized in the media include cooperative, inclusionary behaviors or those designed to enhance another's self-esteem. Conversely, antisocial behaviors are those which foster competitiveness and are designed to exclude others or attack one's self-esteem. In keeping with these expanded definitions, Figure 2 provides a listing of those conceptual and operational distinctions employed in coding the prosocial and antisocial messages in this study.

Reducing the 22 categories to a base of 2 provided an easily understood and defensible system. Unlike the coding efforts of others (see for instance, Burleson, et al., 1988; Cody, McLaughlin, & Jordan, 1980) who eliminated between 27% and 72% of the data from their coding systems, it was possible to code almost all of the teacher constructed message units into either prosocial or antisocial categories.

To prevent the elimination of potentially other meaningful compliance-gaining strategies constructed, we created two additional categories. Consequently, a potential "sieve" type coding scheme was easily converted into an "exhaustive" system (Guetzkow, 1950). The first of these two categories captured messages that invoked a combination of both prosocial and antisocial techniques. This category was labeled "mixed" (e.g., "I bet if you tried, you could really learn a lot and, at the same time, keep me from sitting on you!"). By definition, messages in the "mixed" category "are connected by a word or phrase which indicates a reversal of feeling" (Fox, 1969, p. 653). Because they contain both pro and antisocial components and are connected in this way, "mixed" messages are perceived as confusing to students. They do not fall exclusively into either pro or antisocial categories. (See "Rule Book" in Figure 3 for operationalizations of this category).

Second, non-instances of the pro, antisocial, and mixed categories were resolved by the addition of an "other" category. Expecting the data captured by this extra category to reflect

another, yet uninterpretable "catch-all" of compliance-gaining techniques, it was quickly determined that this was not the case. Instead, this additional, fourth category slowly evolved into a meaningful dimension which was relabeled, "information seeking." Not identifiable as compliance-gaining techniques per se, teachers frequently encoded messages designed to probe students' reasons for their misbehavior ("I would try to find out why Sarah doesn't like school;" "I'll ask Sarah what she likes to do. Maybe she's just bored"). Apparently, teachers who encoded these message types were reluctant or unable to construct compliance-gaining messages without first determining the underlying cause of the misbehavior.

To determine the reliability with which coders assigned messages to one of the four categories (prosocial, antisocial, mixed or information-seeking), two coders (one of them having no other connection to this study) independently coded 100 teacher messages randomly selected across the scenarios. They obtained .95 exact agreement across the four distinctions. Computing Cohen's (1960) Kappa statistic, reliability was estimated at .91.

Before the final coding was conducted a coding rule book was developed. Establishing the "ground rules" for those messages that did not readily or obviously fit into a given category (Calkins, Borich, Pascone, Kugle & Marston, 1978) contributed to greater uniformity among ratings (Marston, Kugle, & Zimmerer, 1978). For instance, the decision was made to code grammatical insertions which added a type of vocalic emphasis to an otherwise neutral

word or phase ("JIM!") as antisocial; simple reminders of the classroom rule ("Don't forget, Jill. Now it's time for me to talk.") were coded as prosocial; all sarcasm was considered antisocial; and so on.

In operationalizing the rules for these particular message types the resulting system relied on a "latent" or inferential, as opposed to a "manifest" or literal level of analysis (Fox, 1969, p. 647). For instance, sarcasm was identified primarily from the contextual cues embedded within the entire passage. Without such cues, an antisocial message would have been inappropriately labeled as prosocial ("I'd be glad to have you take over my job if you'd like to continue to talk!"). Importantly, messages interpreted from a latent level of analysis could have been classified differently by another group/pair of coders employing the same coding system. Consequently, making explicit the RULE BOOK employed in coding message constructions was essential for replication and interpreting the face validity of the results obtained (Cartwright, 1966, p. 436). Figure 3 overviews the RULE BOOK for coding these messages.

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Insert Figure 3 about here

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## RESULTS

Descriptive data. Simple tabulations across the four message categories produced a total of 567 teacher constructed messages. Specifically, 68 experienced teachers constructed 294 prosocial,

151 antisocial, 22 mixed, and 100 information-seeking messages across the four misbehavior scenarios. Table 1 reports these frequencies and their respective means, standard deviations, and ranges for each of the four message types across the four scenarios.

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Insert Table 1 about here

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Data analyses. Besides developing the coding scheme, a secondary objective was to test the impact of particular situational and individual difference variables on teachers' message constructions. Specifically, we analyzed teachers' prosocial and antisocial responses to assess whether or not the constructionist method of eliciting teacher messages of compliance would be "comparable" to those results obtained with prior research employing the former, selectionist procedure. Neither mixed nor information-seeking messages were included in the analyses for three reasons: First, previous tests (Kearney, Plax, Sorensen, & Smith, 1988) of the independent variables in this design focused exclusively on teachers' pro and antisocial message selections (other BATs were dropped from the analyses). Consequently, including the mixed and information-seeking categories would have contributed nothing to our concern with "functional equivalence" of the selectionist and constructionist approaches. Second, mixed messages, representing only 3.9% of the total messages constructed, included both pro and antisocial

content. Not knowing whether the intent (or effect) was to punish or reward the student, inclusion of this category would not have contributed to the overall interpretation of our retest. Third, information-seeking messages were omitted simply because these constructions did not represent compliance-gaining strategies. Instead, teachers used this message type to determine "causes" or reasons for students' noncompliance.

Similar to the data analytic procedures employed by Kearney and Plax (1987) and Kearney et al. (1988), teachers' message "constructions" (as opposed to selections) were submitted to an unbalanced 2 X (2 X 2) X 2 "doubly multivariate repeated measures analysis of variance" (Norusis, 1985). Within this multivariate design, actual message frequencies[4] were analyzed as criterion measures, whereas both misbehavior type (active/passive) and intensity (frequent/occasional) were classified as within-subjects factors and both teacher and student gender as predictors.

An examination of the resulting analyses indicated the following complex interactions and main effects: a significant 3-way interaction among teacher sex, type and intensity; a 2-way interaction between teacher sex and type; between student sex and type; and type and intensity; and two complex main effects for type and intensity.[5]

Specifically, for the 3-way interaction among teacher sex, type and intensity, 10% of the variance was accounted for by the first eigenroot in the model (Wilks = .900, Approx. $F$ = 3.49 with 2/63 $df$, $p < .05$). Simple tests of the interaction yielded

significance only for the antisocial dependent variable ($F$ = 4.04 with 1/64 $df$, $p < .05$). To assist us in interpreting the complex effects, follow-up $t$-tests were computed. With the exception of one paired comparison (significant at the one-tailed critical value only), all reported tests were significant at the critical two-tailed difference of 1.99, $p < .05$ with 67 degrees of freedom. Results indicated two significant effects. Male teachers ($t$ = 2.16, $N$ = 25, frequency of antisocial messages = 33, $M$ = 1.32, s.d. = 1.15) constructed more antisocial messages than females ($N$ = 43, frequency = 34, $M$ = .79, s.d. = .86) for active/occasional misbehaviors. Significant at the one-tailed critical difference of 1.67, $p < .05$, females ($t$ = 1.68, frequency = 22, $M$ = .51, s.d. = .7) reported using more antisocial with passive/occasional than did male teachers (frequency = 6, $M$ = .24, s.d. = .52).

For the 2-way complex interaction between teacher sex and misbehavior type, 9% of the variance was accounted for in the model (Wilks = .906, Approx. $F$ = 3.28 with 2/63 $df$, $p < .05$). Simple tests of the interaction yielded significance only for antisocial messages ($F$ = 6.59 with 1/64 $df$, $p < .01$). Follow-up $t$-tests indicated that male teachers ($t$ = 2.41, frequency = 50, $M$ = 2.0, s.d. = 1.47)[a] constructed more antisocial messages for active misbehavior types than did female teachers (frequency = 53, $M$ = 1.23, s.d. = 1.13). Regardless of teacher sex differences, both male and female teachers reported a greater reliance on antisocial with active than with passive misbehaviors.

For the 2-way complex interaction between student sex and

misbehavior type, 11% of the variance was accounted for in the model (Wilks = .891, Approx. $F$ = 3.85 with 2/63 $df$, $p < .05$). Simple tests of this interaction resulted in significance only for the antisocial messages ($F$ = 6.19 with 1/64 $df$, $p < .01$). T-tests revealed that teachers constructed more antisocial messages when female ($t$ = 1.97, frequency = 32, $M$ = .94, s.d. = 1.23), as opposed to male (frequency = 16, $M$ = .47, s.d. = .66), students engaged in passive misbehaviors.[7] No significant differences were obtained for active types.

For the 2-way complex interaction between misbehavior type and intensity, 21% of the variance was accounted for (Wilks = .794, Approx. $F$ = 8.18 with 2/63, $p < .001$). Simple tests of the interaction revealed significance for both prosocial ($F$ = 6.92 with 1/64 $df$, $p < .01$) and antisocial messages ($F$ = 5.67 with 1/64 $df$, $p < .05$). T-tests indicated that teachers were more likely to report using prosocial messages with passive/frequent (frequency = 104, $M$ = 1.53, s.d. = 1.32) than with either active/frequent ($t$ = -2.86, frequency = 65, $M$ = .96, s.d. = .92) or passive/occasional ($t$ = 3.28, frequency = 64, $M$ = .94, s.d. = .86) misbehaviors. Moreover, teachers were more likely to construct antisocial messages with active/occasional (frequency = 67, $M$ = .99, s.d. = 1.0) than with either passive/occasional ($t$ = 3.9, frequency = 28, $M$ = .41, s.d. = .65) or active/frequent ($t$ = -3.26, frequency = 36, $M$ = .53, s.d. = .72). However, teachers also reported using more antisocial with active/frequent than with passive/frequent misbehaviors ($t$ = 2.2, frequency = 20, $M$ = .29, s.d. = .62).

The significant complex main effect for misbehavior type (active/passive) accounted for 31% of the variance (Wilks = .692, Approx. $F$ = 14.03 with 2/63 $df$, $p < .0001$). Following from this analysis, both simple main effects were significant. Specifically, teachers constructed more prosocial ($F$ = 6.46 with 1/64 $df$, $p < .01$) with passive (frequency = 168, $M$ = 2.5) than with active (frequency = 126, $M$ = 1.9) misbehavior types. Moreover, they reported using more antisocial ($F$ = 28.15, 1/64 $df$, $p < .0001$) with active (frequency = 103, $M$ = 1.5) than with passive (frequency = 48, $M$ = 0.7).

The final complex main effect for misbehavior intensity (frequent/occasional) accounted for 23% of the variance in the model (Wilks = .767, Approx. $F$ = 9.60 with 2/63 $df$, $p < .001$). Both simple main effects were significant as well. Teachers reported using more prosocial ($F$ = 7.69, 1/64 $df$, $p < .005$) with frequent (frequency = 169, $M$ = 2.5) than with occasional misbehavior intensities (frequency = 125, $M$ = 1.8). For antisocial message constructions ($F$ = 12.81, 1/64 $df$, $p < .001$), teachers reported using more with occasional (frequency = 95, $M$ = 1.4) than with frequent misbehaviors (frequency = 56, $M$ = 0.8).

## Discussion

As we suspected in our rationale to this entire investigation, Burleson, Wilson, Waltman, Goering, Ely and Whaley (1988) overstate the preeminence of their data-collection technique.. When rigorously employed, the construction procedure offers at best just one more way of collecting and analyzing

compliance-gaining messages. We acknowledge that the use of this method requires more time, more strain. While these proponents may equate time and effort with superiority, we prefer working smart. This discussion examines the results supporting our conclusion.

Specifically, the primary focus of this study was the development of a coding system for categorizing teachers' compliance-gaining message constructions. Relying on both inductive and deductive approaches, the resulting system reflects both prior research in the area as well as unique characteristics of the data generated by the teachers sampled in this investigation. While the BAT typology developed by Kearney et al. (1984; 1985) provided direction for the coding scheme, a more parsimonious solution resulted in 2 fundamental compliance-gaining message categories: Prosocial and antisocial.

The prosocial and antisocial categories paralleled those dimensions descriptive of both instructional and interpersonal compliance-gaining typologies. Similar to Kearney et al. (1988), prosocial strategies were defined primarily as reward-oriented, whereas antisocial messages were considered punishment-based. Our examination of actual teacher message constructions revealed data which are also representative of more comprehensive definitions of pro and antisocial behavior. That is, the prosocial category was extended to include helping messages; attempts to include the student among his/her peer group; and statements designed to enhance the student's self-esteem. Antisocial messages foster

competitiveness and are designed to isolate the student from his/her peers or attack the student's self-esteem. Similarly, those BATs comprising the prosocial/antisocial factors obtained with the selectionist approach (Kearney et al., 1988) support this extended conceptualization.

While these two categories may have been sufficient for examining compliance-gaining message constructions in relation to message selections, they did not provide an exhaustive system for coding all relevant teacher constructions. Rather than eliminating the data or generating a meaningless "other" category, we further refined the system to include two additional, inductively-derived categories: Mixed and information-seeking.

The mixed category evolved from those messages which include both prosocial and antisocial components and are connected with a word or phrase to cause a reversal of feeling. Perceived as confusing in intent and effect, mixed messages constituted a very small percentage of those messages constructed overall. Not identifiable as a compliance-gaining technique per se, information-seeking messages are designed to determine the cause of the student's misbehavior.

These two new categories partitioned the "other" messages into meaningful, codeable units. With the addition of mixed and information-seeking categories, we were able to code all 567 message constructions. Moreover, high inter-coder reliability was obtained. Even though all messages were now interpretable as prosocial, antisocial, mixed or information-seeking, only

prosocial and antisocial reflected unique compliance-gaining strategy types. Satisfied that our initial categories of prosocial and antisocial captured most of the compliance-gaining messages generated from these teachers then, the mixed and information-seeking categories were eliminated from a subsequent test of the coding scheme.

Our secondary objective was to test the influence of those situational (misbehavior type and intensity) and individual difference (teachers' and students' gender) variables on teachers' prosocial/antisocial message constructions. Because these variables have been identified previously as predictors of teachers' compliance-gaining message selections, we expected similar results using the constructionist approach. While the specific findings obtained in this study are somewhat different, the overall impact of the predictors is consistent with prior selectionist research.

Specifically, the same three variables, teacher gender, misbehavior type and intensity, found significant in Kearney and Plax (1987) and Kearney et al. (1988) were also significant in the present investigation. While prior selectionist studies emphasized the importance of these variables, their impact in this study resulted in several different solutions. That is, a 3-way interaction was obtained for teacher gender, misbehavior type and intensity, but only for antisocial message constructions. Within this solution, male teachers generated more antisocial messages with active/occasional misbehaviors; whereas females constructed

more antisocial with passive/occasional. This interaction did not result in the selectionist studies. Subsequent solutions, however, were obtained which parallel previous research.

A second solution involved an interaction between misbehavior type and intensity for both prosocial and antisocial message constructions. This interaction is consistent with Kearney and Plax (1987) who used individual BATs in tests of their hypotheses. When reducing the BATs to two factors, prosocial and antisocial, Kearney et al. (1988) obtained main effects for misbehavior type and intensity. Similarly, our third and fourth solutions indicated significant main effects for each. Across all three studies, we found teachers selecting (or constructing) significantly more prosocial messages with passive and more antisocial with active misbehavior types. Moreover, teachers reported a greater likelihood of using prosocial strategies with frequently occurring misbehaviors and more antisocial with occasional.

At this point, these results suggest that the two methods, selectionist and constructionist, are functionally equivalent. While specific findings may differ between the two approaches, these results, overall, support those reported in previous studies employing the BAT checklist. However, results specific to teacher and students' gender differed from those obtained in selectionist studies. Whereas previous BAT studies report that male teachers use more antisocial messages than females regardless of misbehavior type or intensity (Kearney & Plax, 1987; Kearney et

al., 1988), male teachers in this study generated more antisocial messages as a function of a particular misbehavior type (active) and intensity (occasional). While we might expect female teachers to construct more prosocial messages, instead we found that females generated more antisocial when students engaged in passive and occasional misbehaviors.

For students' gender, results are both different from previous studies and counter-intuitive. In this sample teachers constructed more antisocial messages when female, as opposed to male, students engaged in passive misbehaviors. This finding has not been supported in prior selectionist research. Moreover, opposite findings have been obtained in classroom observations where teachers are more likely to show disapproval; give criticism; and engage in proportionately more overall negative contact with male than with female students (see for instance, Brophy & Good, 1974). Others might argue from these findings that the constructionist approach is more "sensitive" than the selectionist to the influence of these variables (Burleson et al., 1988). However, we remain unconvinced that these results reflect the "real world, expected effects" claimed as an advantage of constructionism.

Overall, we found no evidence of the superiority of the constructionist approach to analyzing compliance-gaining messages in the instructional environment. For the most part, the data obtained using the constructionist system reflect results comparable to those obtained with the selectionist procedure

employed in similar studies. Moreover, those discrepancies observed with the construction procedure are counter-intuitive and inconsistent with those in-class observations recorded in prior studies.

Future research should provide a more direct test of the construction/selection controversy in instructional communication. Our results do not support the constructionists' claim that their method is more valid as a function of its increased sensitivity to the effects of situational and individual difference variables. Nor do we find it to be superior as a function of its ecological validity. What remains, however, is a question of social desirability. That is, will teachers, "when left to their own devices . . . employ less polite (i.e., less appropriate) forms of behavior in the effort to get their way" (Burleson et al., 1988, p. 476)?

Sensitive to these concerns, research is underway that retests and extends earlier designs which employed the selectionist procedure by imposing instead, the constructionist approach. Relying on the coding scheme developed in this report, we should expect message constructions to differentiate prospective from experienced teachers similar to those findings obtained by Kearney and Plax (1987). In response to the claim that the construction procedure is unaffected by social desirability bias (Burleson et al., 1988, p. 475), we should

further expect teachers to construct prosocial messages no more often than antisocial messages. By examining both experienced and inexperienced teachers' message constructions in this way, we might be in an even better position to claim equivalence of the two techniques.

**Footnotes**

[1]The number of teachers employed to generate messages and thus, develop and test our coding scheme is representative of sampling designs consistently employed in constructionist studies (Boster & Stiff, 1984; Burleson & Samter, 1985; Burleson et al., 1988; Tracy et al, 1984; Willbrand & Rieke, 1986; Witteman & Fitzpatrick, 1986). Constructivists normally sample between 20 and 80 subjects and where indicated, code approximately 90 to 500 messages. From the 68 teachers sampled in this study, 567 messages were coded.

[2]Occasionally, a teacher would indicate that he/she would simply "ignore the behavior" and fail to engage in any overt compliance-gaining strategy. Future researchers may wish to create an additional category in their coding scheme to accommodate this "extinction" procedure. Such a category would be appropriate for those misbehaviors teachers may not readily label as particularly "disruptive."

[3]Kappa values ranging from .81 - 1.00 represent "almost perfect" agreement; .61 - .80 indicate "substantial" agreement; and .41 - .60 reflect "moderate" agreement (Landis & Koch, 1977).

[4]Message frequencies or the counting of messages constructed represents an absolute scale and a valid level of measurement and can be defensibly used in comparative analyses as long as the data with which it is being compared is also frequency data. These data fall within what Anderson (1961), Games and Klare (1967, pp. 475-478) and Roberts (1979, pp. 64-69) define as an absolute/ratio

level of measurement. Thus, our frequencies are most appropriately analyzed within a repeated measures MANOVA design. A recent example of this approach to frequency data analysis was published by O'Keefe and Shepherd (1987).

[5]Because available power techniques and tables do not address complex 4-group multivariate designs with repeated measures (Stevens, 1980), no estimates are reported for any of the nonsignificant complex effects computed in the present study. Following from Cohen's (1977) notion of effect size, estimates for all nonsignificant simple effects produced within our MANOVA model were about .83 for a medium effect at alpha = .05 and a sample of 68.

[6]Reported frequencies and means reflect teachers' combined antisocial responses for both active conditions.

[7]Reported frequencies and means reflect teachers' combined antisocial responses for both passive conditions to either the male or female scenario form.

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**Figure 1.**
**Student Misbehavior Scenarios**

**Passive/Frequent**

Situation 1: *Sarah is completely turned off by school. She sits passively in class day after day, making little or no effort at all to participate in class or do homework. What would you say to get Sarah to participate and do her homework?

**Active/Occasional**

Situation 2: Tom loves to talk with his friends. Even though he normally limits his socializing time with friends to recess (or break), once in a while he distracts you and others in class with his talking. On those rare occasions when he is talking out of turn, what would you say to quiet Tom down?

**Active/Frequent**

Situation 3: Janet is persistently restless and overactive in your class. She is always dominating the class by asking a lot of questions and seems to be continually looking for an argument. Her behavior is distracting to you, the class, and the lesson. What would you say to get Janet to calm down and to behave?

**Passive/Occasional**

Situation 4: Even though Bill typically pays attention to your lectures and instructions, sometimes he fails to listen actively to you. Instead, he may be doodling, daydreaming or resting his head on the desk. On those infrequent occasions when he is not paying attention, what would you say to get Bill to pay attention and listen to you?

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*In order to rotate student gender roles, each scenario was rewritten to substitute Gerry for Sarah, Amy for Tom, Scott for Janet, and Jill for Bill.

**Figure 2.**

**PRO/ANTISOCIAL CATEGORY DESCRIPTIONS AND EXAMPLES**

| PROSOCIAL | ANTISOCIAL |
|---|---|
| 1. **Elicits on-task behavior --helpful to student** "I would offer to help Gerry with his assignment." | 1. **Desists off-task --not helpful to student** "Stop talking, Amy." |
| 2. **Inclusionary--student stays within the classroom social system.** "I would move around the room until I had Sarah's attention." | 2. **Exclusionary--isolates student from classroom social system.** "Amy." |
| 3. **Focuses on cooperation --with classroom rules and others.** "Let's let someone else have a turn." | 3. **Focuses on isolation --from classroom rules and others.** "We'll all have to wait until Tom is ready." |
| 4. **Reward-based* --consequences intended as reward.** "You'll be successful in life if you do." | 4. **Punishment-based* --consequences intended as punishment.** "You won't get any recess until you finish." |
| 5. **Encourages adaptation to the classroom social system --redirects student's behavior to another time or appropriate context.** "You can talk with your friends during recess or 'talk time'." | 5. **Discourages deviation from classroom social system --student's behavior is inappropriate; no mention of when/where the behavior is appropriate.** "Shut up." |
| 6. **Reminding student of rule or explaining the rule again.**** "We listen when someone else is talking." | 6. **Invoking the rule or a threat to apply consequences of the rule.**** "I would write his name on the board." |
| 7. **Focuses on student's behavior or preservation of self-concept.** "I know you can be a good listener." | 7. **Attacks student's self, not the behavior.** "You are rude and obnoxious." |

***If the consequence is explicitly stated, then Rule #4 overrides all other rules for determining pro/antisocial category designation.**
****Do not assume a rule has a specific consequence if broken or followed. Consequences are separate from rules.**

**Figure 3.**

**RULE BOOK FOR CODING TEACHER MESSAGES**

**1. MIXED CATEGORY**
Single message tactics which combine both prosocial and antisocial meanings. Typically, such tactics begin as prosocial strategies, but end up as antisocial. By definition, the meaning and consequences of these mixed messages are confusing to the student and therefore, unclear. "I know you are not a rude and obnoxious person, but today you sure act like one."

**2. INFORMATION-SEEKING CATEGORY**
Messages which try to elicit information from the student ("What is wrong, Johnny? Why aren't you interested in this?") or from others (checking records, asking a counselor), to determine the cause of the student's misbehavior. Moreover, this category would include teacher changes in instructional strategy/format ("I would try to make the subject more interesting") which implies that the teacher recognizes self/subject content as the cause of the student's disruptive or avoidant behavior.

**3. NONVERBAL MESSAGES**
Unless worded to connote "antisocial" (glaring, evil eye staring, leaning against, stopping and waiting until the class looks), code as prosocial ("I would give her eye contact and use proximity"). When nonverbal messages appear to add emphasis to the verbal, the nonverbal is used to determine verbal intent ("I would glare while asking her a question") and are not coded as separate from the verbal.

**4. SARCASM**
While often humorous to others, sarcasm is seldom perceived as particularly humorous to the "victim." Designed to embarrass or ridicule ("Earth to Janet"), these statements should be coded as "antisocial."

**5. ASKING QUESTIONS**
Similar to the Teacher Feedback BAT, teachers may ask the student who is off-task to "feedback" what was just covered by the others in class or to "join in" by offering an opinion. Unlike the original BAT which was characterized solely as "prosocial," the interrogatives used by these teachers can be coded as either prosocial or antisocial. When the question is intended to include the student and provides sufficient leeway for a response ("What is your view or opinion?"), code as prosocial. Code as antisocial those questions which are meant to isolate, embarrass, or exclude the student by focusing on a specific answer ("What did I just say?"). Nonverbal qualifiers may be used to determine pro/anti distinctions as well.

**Table 1**
**Means Table of Constructed Teacher Messages by Misbehavior Type and Intensity**

| | Misbehavior Type and Intensity | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Pass/Freq | | | | Act/Occ | | | | Act/Freq | | | | Pass/Occ | | | |
| | N* | M | sd | Range | N | M | sd | Range | N | M | sd | Range | N | M | sd | Range |
| Prosocial | 104 | 1.5 | 1.3 | 0-9 | 61 | .9 | .9 | 0-5 | 65 | 1.0 | .9 | 0-4 | 64 | .9 | .9 | 0-3 |
| Antisocial | 20 | .3 | .6 | 0-3 | 67 | 1.0 | 1.0 | 0-4 | 36 | .5 | .7 | 0-2 | 28 | .4 | .7 | 0-2 |
| Mixed | 3 | .04 | .2 | 0-1 | 5 | .1 | .3 | 0-1 | 10 | .2 | .4 | 0-1 | 4 | .06 | .2 | 0-1 |
| Information | 49 | .7 | .8 | 0-3 | 8 | .1 | .3 | 0-1 | 18 | .3 | .5 | 0-2 | 25 | .4 | .6 | 0-3 |

*N=the total number of messages coded.